

### **REMARKS**

Claims 1-15 were originally filed and currently pending. Claims 1, 4-7 and 9-15 are rejected, as discussed in more detail below. Reconsideration of the claimed subject matter in light of the following Remarks is respectfully requested.

#### **Rejection of Claims 1, 4-7, 9-13 and 15 under 35 U.S.C. 103(a):**

The Examiner rejected Claims 1, 4-7, 9-13 and 15 under 35 U.S.C. 103(a) as being obvious in view of the teachings of Tay, J.-H. *et al.*, *Journal of Applied Microbiology* (2001), Vol. 91, pp. 168-175 ("Ref. AS") and Tay, J.-H. *et al.*, *Appl. Microbiol. Biotechnol.* (2001), Vol. 57, pp. 227-233 ("Ref. AQ"). In particular, the Examiner contends that:

**Ref. AS describes the benefit of a starvation period on cultivation of aerobic sludge granules useful in sludge blanket waste water treatment processes.**

**Ref. AQ describes the benefit of providing at least about 1.2 cm/s superficial velocity of air while cultivating aerobic sludge granules useful in sludge blanket waste water treatment processes. Among the benefits are improved settling ability and hydrophobicity.**

**It would have been obvious to have provided periodic starvation periods while cultivating according to the Ref AQ technique, as suggested by Ref. AQ, in order to make granules of improved form and properties, as suggested by Ref AS.**

**Alternatively, it would have been obvious to have fluidized the seed particles and granules of Ref. AS at a superficial velocity of 1.2 cm/s or more in order to improve granule form and properties, e.g., hydrophobicity or settling velocity, as suggested by Ref. AQ.**

Applicants traverse this rejection for the following reason.

Ref. AS and Ref. AQ are not statutory bars to the patentability of the claimed invention under 35 U.S.C. §102(b) because they were published less than one year before the filing date of the above-identified application. A rejection based on a publication that is not a statutory bar may be overcome by a showing that the publication was published either by an Applicant or on an Applicant's behalf. Accordingly, an appropriately prepared Declaration by an Applicant under 37 CFR 1.132 that shows that Ref. AS and Ref. AQ was the work of the Applicant should be sufficient in overcoming the above-described rejection of Claims 1, 4-7, 9-13 and 15 in view of Ref. AS and Ref. AQ.

Accordingly, submitted herewith are two *Declarations Under 37 C.F. R. § 1.132*, one from Joo-Hwa Tay and the other from Yu Liu. Joo-Hwa Tay and Yu Liu are both named as inventors in the above-identified patent application. They are also two of the three named authors in both Ref. AS and Ref. AQ. These *Declarations* establish that the work set forth in Ref. AS and Ref. AQ was the work of Joo-Hwa Tay and Yu Liu and that the contribution of the additionally-named author in both of these references did not arise to an inventive level, but instead was work performed under the direction or supervision of either Joo-Hwa Tay or Yu Liu. See *In re Katz*, 687 F.2nd 450, 215 USPQ 14. Since the work set forth in Ref. AS and Ref. AQ does not represent the work of another, the teachings of the references, either individually or in combination, can not serve in the context of a §102(a) or a §102(a)/103(a) rejection of the instantly claimed subject matter. Accordingly, Applicants respectfully request the withdrawal of the rejection of Claims 1, 4-7, 9-13 and 15 under 35 U.S.C. § 103(a) in view of Ref. AS and Ref. AQ.

**Rejection of Claim 14 under 35 U.S.C. 103(a):**

The Examiner also rejected Claim 14 as being obvious in view of the teachings of the afore-mentioned journal articles and further in view of U.S. Patent No. 5,985,150 (Pat '150). In particular the Examiner contends that:

**Pat '150 describes a method of separating granules from the wastewater using a portion of a vessel that is not aerated (3). It would have been obvious to have employed such a device to harvest the granules of Ref. AS as modified by AQ, or of Ref. AQ as modified by Ref. AS, in order to facilitate granules/water separation, as taught by the patent.**

Applicants traverse this rejection for the following reasons:

As discussed above in more detail, Ref. AQ and Ref. AS. can not be used in the context of a § 102(a)/103(a) rejection of the claimed subject matter, since the work set forth in both of these references is not the work of another. Consequently, the teachings of both references can not be used in combination with the teachings of Pat '150 in rendering Claim 14 obvious. The teaching of Pat '150 by itself fails to disclose or suggest the method of Claim 14, *i.e.*, a method of producing aerobic biogranules for the treatment of waste water that comprises the steps of a) introducing waste water into a reactor, b) seeding the reactor with an active

biomass material, (c) supplying oxygen containing gas to the reactor to provide a mixing action and oxygen to the suspension of biomass material in said waste water (the supply of oxygen-containing gas providing a superficial upflow gas velocity greater than 0.25 cm/s), d) **initiating a period of nutrient starvation of the biomass material while continuing to supply oxygen containing gas**, e) allowing formed aerobic granules to settle in a settling zone in said reactor (wherein the settling zone is non-aerated), f) discharging at least a portion of the waste water, g) repeating steps (a) to (f) until at least a portion of the biogranules in said settling zones are within predetermined properties, and h) recovering said biomass granules with those predetermined properties. Accordingly, Applicants respectfully submit that the teaching of Pat '150 fails to render obvious the subject matter of Claim 14 and therefore respectfully request that the rejection of Claim 14 under 35 U.S.C. §103 be withdrawn.

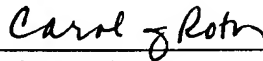
**Conclusion:**

In view of the foregoing remarks and in light of the enclosed *Declarations*, Applicants respectfully submit that all of the claims in the above-identified patent application, including Claims 2-3 and 8, are now clearly allowable. Favorable consideration and a Notice of Allowance are earnestly solicited.

The Director is authorized to charge any additional fees due by way of this Amendment, or credit any overpayment, to our Deposit Account No. 19-1090.

Respectfully submitted,

SEED Intellectual Property Law Group PLLC



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Enclosures: *Declaration of Yu Liu under 37 C.F.R. § 1.132*  
*Declaration of Joo-Hwa Tay under 37 C.F.R. § 1.132*

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